DD/A Registry
85-2945

ROUTING AND RECORD SHEET

SUBJECT: (Optional)

Copy of Memo from ExDir

DDA REGISTRY
FILE: 50-1

FROM:	EXTENSION	NO.
D/OIT 2D00 HQS		DATE 23 August 1985

TO: (Officer designation, room number, and building)	DATE RECEIVED	DATE FORWARDED	OFFICER'S INITIALS	COMMENTS (Number each comment to show from whom to whom. Draw a line across column after each comment.)
1. EXO/DDA 7D18 Headquarters	26 AUG 1985			Harry, Enclosed is a copy of a memo recently sent out to ISB members by the ExDir. OIT plans to put a paper on the table on 4 September telling the ISB the direction we intend to take and the timing.
2. ADDA	26 AUG 1985			
3. DDA	27 AUG 1985			
4.				
5. DDA Reg. (file)				STAT
6.				I have just seen your note on the Census cover sheet. In paragraph 6, first section of this paper a call is made for a reduction in vendors. I think it is fair to observe that the Census counted that line to get included.
7.				
8.				
9.				
10.				
11.				STAT
12.				
13.				
14.				
15.				

FORM 1-79 610 USE PREVIOUS EDITIONS

GPO : 1983 O - 411-632

SECRET

Central Intelligence Agency
Washington, D.C. 20505

21 August 1985

Executive Director

NOTE FOR: Information Systems Board Members

SUBJECT : Information Technology Implications

Here is a short paper I recently provided the DDCI containing my views on how we should proceed on a significant part of the information technology question. I don't think any of it should be much of a surprise to you. Many of the issues I have raised will be touched on in our August 23 presentation by Boeing. We agreed that it should be discussed with the Board. I call your particular attention to the specific suggestions on pages 4 and 5. I have asked Bill Donnelly to present OIT's views on those issues at our September 4 meeting.

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9 August 1985

MEMORANDUM FOR: DDCI

FROM : EXDIR

SUBJECT : Information Technology Implications

1. I have spent the past year trying to understand what the information technology revolution means to our profession and to discover how we can better take advantage of it. You saw my long paper on this subject a few months ago; it has served as a point of departure. This paper describes the thread of my current reasoning, through the issues to the implications. It is specifically focused on domestic systems and excludes station and foreign field support issues.

2. From a technology point of view:

-- Desk-top personal computers today have the speed and memory of the mainframe computers of 10 years ago. An equally impressive revolution in building communications systems already permits thousands of these individual desk-top machines to talk with each other.

-- Over the next several years, we will see a continuing rapid evolution toward very much faster machines with greatly expanded memory (up to perhaps 1/2 million pages of text) on your desk at costs around $10,000/unit.

-- Such desk-top machines have major potential for expanding both the productivity of our people and the quality of their work--potential we have just begun to exploit.

-- $10,000 amortized over a 4-5 year period is a very small price to pay to increase the quantity or quality of the work being done by a $30-60,000/year employee.

-- The percentage of our people who are comfortable with information technology continues to grow; soon much of our work force will have had college or graduate school experience with computers before joining us.

-- Recent progress in designing usable software and the highly competitive nature of the information technology market suggest a flow of commercially available software of increasing utility and ease of use.

-- Word processing, spreadsheet, graphics, and some decision support tools are, of course, readily available now.

-- A product called Smalltalk, now being aggressively supported by Xerox (after much pushing by us), allows sophisticated analysts and others to design their own computer applications--in effect allowing individual professionals to tailor computers to their own evolving needs without waiting for months to get help from scarce applications programmers. Other similar products, which effectively widen the applicability of the computer to our work, will come along.

3. The impact of the availability of this technology will be profound:

-- Most important, more of our employees will themselves be able to explore ways to improve both the quantity and the quality of their work.

-- There will be pressure to allow--indeed sponsor--the building of more and bigger computer databases at lower management levels in our Agency.

-- Inevitably there will be major impact on training and support elements, as all of us seek help in exploiting these capabilities.

-- We will face a new security and compartmentation challenge, as we begin widespread use of commercial products which can store all of a branch's sensitive and other files in a few cubic inches. (This capability is here now.)

-- We should see a gradual change in the roles of our central information technology organizations, as they move away from a primary focus on facility management toward more direct emphasis on meeting individual user needs.

4. So what else ought we to be doing?

-- In my view, we have already made the largest organizational move required to position us for the future: creating the Office of Information Technology. This has brought under one roof most of the resources which will need to be harnessed in coming years.

-- We need to consider modelling the information flows within our Washington based components--as an aid to understanding what is going on, and to help us build a vision of where we want to go next. OIT is working with this idea now, and we will soon discuss it with the Information Systems Board. We need to know more about the real-life payoff of such a venture.

-- We should continue to encourage the development of Directorate based organizations which can encourage and support information technology applications in their own organizations. IMS has long exercised a leadership role for the DO in information technology; ASG has established itself in a similar role in the DI. The S&T and the DA need to do more.

-- In a more immediate sense, I think we should decide now to aggressively "market" with our people individual personal computers or small-scale (5-30 terminal) systems in components which have willing or enthusiastic leadership and problems that appear likely to yield to available systems and software.

-- Personal computers of the IBM 3270 class can do useful work for many of our components today even though we can't right now connect them to our OIT mainframe machines as terminals. (We face short-term technical barriers to hooking more machines to our mainframe machines. But the communications system which will be installed in the Headquarters complex over the next two years will enable most such machines to be connected to the mainframes and to each other.)

5. Why not just let nature take its course?

-- First, real productivity and quality gains can result from our effort to push this technology. Thus as a matter of policy, I believe we should actively encourage the cost effective application of small computers to real problems by analysts, case officers, COTRs, support people--everyone who combines to do our work.

-- Second, a central effort to push installation of personal computers at a more rapid pace will help us control important technical compatibility issues. By supplying the equipment, we can help ensure that people who need to communicate with each other over these systems in the future will be able to do so.

-- Third, an aggressive terminal program should help us get ahead of and shape the demand for services, rather than being always pushed by it.

-- Fourth, the more stand-alone computing capability we have, the less likely it is that large numbers of our people will be affected by the occasional nearly inevitable system crash. PC's will allow lots of people to keep on working, even though they can't, for a few moments, access our mainframes.

-- Fifth, such an effort will help us control the numbers of vendors who support technical equipment in our building, an important security consideration.

-- Finally, it will allow us to direct our maintenance, training, software applications, and other user support activities down a finite number of paths - allowing more effective and economical training and other support, and reducing the problems facing employees as they change jobs within the building and confront new and different systems.

6. Here are my specific suggestions:

-- OIT should announce to the Information Systems Board its plans for a family of terminals designed to meet a range of user needs. This should also incorporate a strategy for phasing out most of our stand-alone word processor systems over the next decade, moving most of us--clerical, analyst, and case officer alike--towards reliance on the same basic interconnected personal computer tools. It should also reflect a commitment to reduce substantially the number of different vendors whom we allow physical access to our facilities for equipment support. (We have 121 word processing/computer terminal vendors in Agency facilities today.) Except for stand-alone systems designed around a specific need or as provided below, we should not encourage individual solutions to individual problems.

-- While supporting an overall move toward greater compatibility and standardization, we should encourage each Directorate, OIT, and ORD to support a limited number of Directorate test-bed terminal installations featuring "high end" equipment for sophisticated users. We should do this to ensure continuing user dialogue with OIT to provide terminals responsive to user needs, as well as to ensure that we are able to take advantage of continuing industry innovation. And we should do this now, conscious that it may well be 1-2 years before these systems can be connected to our mainframes. Xerox, Sun, Tektronics, and Apple are four vendors now providing advanced terminal equipment which might be included in such a program.

-- We should prohibit individual components from themselves connecting any equipment to our communications system, except as approved by OIT.

-- We should expand the capability within OIT to install and maintain a significant number of personal computers in response to explicit Directorate priorities.

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-- We should charge OIT to make available and support a user-friendly, commercially available package of software applications, including a word processing program, a spreadsheet program, programs for access to AIM and/or SAFE as appropriate, which can be used to meet branch level needs now. We must leave flexibility to make future additions, and plan that new software will be continuously introduced in such a way as to maintain system-wide compatibility and take maximum advantage of commercial software development efforts.

-- We should task OIT with developing a program to provide the technical and other user support needed to allow us to put these capabilities to early effective use.

-- We should task OIT to find and implement an acceptable way of dealing now with the special security risks inherent in the inevitable concentration of large amounts of sensitive data in very small spaces.

If you are ready for all of this, I would like to table it with the Board and proceed.

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